

Ch 2 Segments and Angles

2-1 Segment Bisectors

midpoint--a point on a segment, that divides it into 2 congruent segments

M is the midpoint

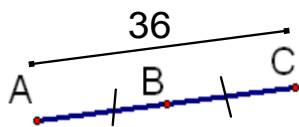
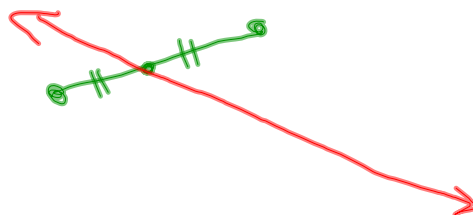


$$\overline{AM} \cong \overline{BM}$$

$$AM = BM$$

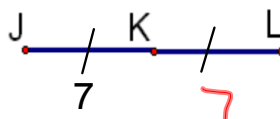
Segment Bisector--a segment, ray, line, or plane, that intersects a segment at its midpoint

bisect--divide into 2 congruent parts



$$AB = \frac{1}{2} 36 = 18$$

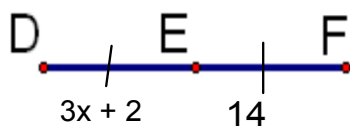
$$BC = 18$$



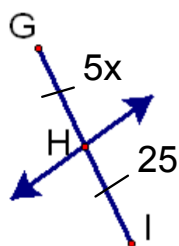
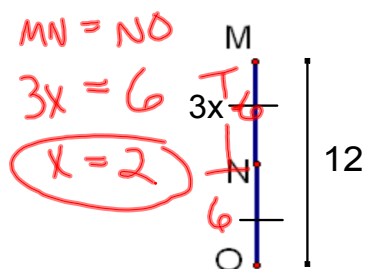
$$JK = 7$$

$$KL = 7$$

$$JL = 14$$

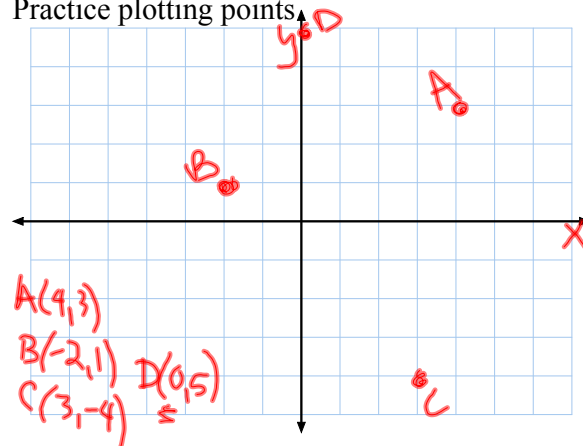


$$\begin{aligned}
 DE &= EF \\
 3x + 2 &= 14 \\
 -2 &\quad -2 \\
 \hline
 3x &= 12 \\
 \hline
 x &= 4
 \end{aligned}$$



$$\begin{aligned}
 5x &= 25 \\
 x &= 5
 \end{aligned}$$

Practice plotting points



Midpoint Formula

$$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

(x, y)

Find the midpoint of \overline{AB} .

A(5,3) B(-2,1)

$$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

$$M\left(\frac{5 + (-2)}{2}, \frac{3 + 1}{2}\right)$$

$$M\left(\frac{3}{2}, 2\right)$$

Find the midpoint of \overline{CD} .

C(-6,1) D(4,5)

$$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

$$M\left(\frac{-6 + 4}{2}, \frac{1 + 5}{2}\right)$$

$$M(-1, 3)$$

Find the midpoint of \overline{EF} .

E(-2,3) F(-4,5)

$$M\left(\frac{-2 + (-4)}{2}, \frac{3 + 5}{2}\right)$$

$$M(-3, 4)$$

Find the midpoint of the following:

1. $(3, 2)$ $(7, 6)$

$$(5, 4)$$

2. $(4, -6)$ $(8, 4)$

$$(6, -1)$$

HW--p56-57 #s 2-10, 16-23, 26-32